



App. No. 09/421,605

### **REMARKS**

In accord with the Draftsperson's objection, a formal Figure 1 drawing in compliance with 37 C.F.R. § 1.84 (j) & (p) is enclosed.

Claims 1-38 remain in this application. Claims 5, 17, 18, and 33-35 are amended. Claims 36-38 are new. Support for the amendments and additional claims is found throughout the specification and drawings. In view of the following amendments and remarks, Applicants respectfully request reconsideration of the application.

#### **1. The Claims are Definite**

All of the claims were rejected under 35 U.S.C. § 112 as being indefinite. In particular, claims 1, 5, 6, 17, 18, 19, 24, 26, 28, 32, 17, 29, and 33-35 were rejected. Applicants respectfully submit that the rejection is moot in view of the amendments and following remarks and request withdrawal of the rejection.

The claim 1 limitation "at least one adhesive that bonds said outer, intermediate, and inner layers together" in lines 7-8 is definite as written. As stated on page 7 of the specification, bonding interfaces 18 and 20 can be any adhesive compatible with layers 12, 14, and 16. One adhesive composition can bond all three layers together when disposed in interstices 18 and 20 as formed between layers 12, 14, and 16. Although the current invention may have two bonding interfaces, the same adhesive composition may be used for both interfaces. Therefore, "one adhesive" would bond all three layers together by being disposed between them.

In claims 5, 17, and 18, the standard abbreviation for melting point, "MP", was replaced with the words "melting point" as requested. Concerning the trademarks used in the claims, Applicants have used generic language to the extent possible. However, many of the polymers of the current invention are trade secret compositions, only known by their trademarks. The manufacturers will not release their exact formulations or production methods. Applicants' submit that since the specific compositions of the current invention are only publicly known as trademarks, the claims are definite as written.

The claim 17 limitation "wherein nylon 6,66 is an 85/15 copolymer with 85 being the nylon 6 component" is definite as written. Nylon 6,66 is a copolymer of nylon 6 and nylon 66. This is known to one of skill in the art. An 85/15 copolymer of nylon 6,66 contains 85% nylon 6 and 15% nylon 66, by weight. To remove any uncertainty, the claim states that the 85 represents the nylon 6 component. Applicants' usage is in accord with one of ordinary skill in the art.

Applicants' respectfully submit that "greater than about 35  $\mu\text{m}$ " is definite as written in claim 29. The office action correctly states that greater than about 35  $\mu\text{m}$  could correspond to a value less than 35  $\mu\text{m}$ , i.e. 34 or 34.5  $\mu\text{m}$ . This is the exact reason Applicants chose the word "about" to specify layer thickness. Claims 33-35 were amended as suggested by the Examiner.

## **2. The Claims are Patentable Over the Cited Prior Art**

Claims 1, 4, 10, 14-19, 31 and 32 were rejected under 35 U.S.C. § 102(b) as being anticipated by *Vicik*. Under 35 U.S.C. § 103(a) claims 7-9, 20-22, 29-30, and 33-35 were rejected as being unpatentable over *Vicik*, claims 2, 3, 5-9, 11-13, 20-22, 29-30, and 33-35 were rejected as being unpatentable over *Vicik* in view of *Wilhoit*, and claims 23-26 were rejected as being unpatentable over *Vicik* in view of *Webb* or *Friedrich*. Applicants respectfully traverse.

### **a. The Claims are Not Anticipated by the Prior Art**

Because *Vicik* does not contain the compatibilizer element of claim 1, Applicants respectfully submit that the anticipation rejection should be withdrawn. To be anticipated, the prior art must contain each and every element of the claimed invention in a single reference. *In re Spada*, 911 F.2d 705, 709, 15 U.S.P.Q. 2d 1655 (Fed. Cir. 1990). Applicants' claim 1 requires a compatibilizer, such as TAFMER 1085, in the outer layer to prevent the very low density polyolefin and ethylene vinyl acetate from hazing. The compatibilizer ensures good optics, such as gloss and clarity, for the packaging film.

*Vicik* does not require or disclose a compatibilizer as used by Applicants. The Examiner generally asserts that "if desired, well known additives such as processing aids, slip agents, antiblocking agents, pigments, and mixtures thereof may be incorporated into the film generally in small amounts up to about 10% by weight." The Examiner has provided no explanation as to how the claimed compatibilizer is encompassed by this list. Therefore, *Vicik* cannot anticipate the present claims.

b. The Claims are Not Obvious in View of the Prior Art

The § 103 rejection should be withdrawn because the invention defined by the claims would not have been obvious in view of the cited prior art. Briefly stated, Applicants' invention is directed to thermoplastic multi-layer films having enhanced resistance to abrasion, puncture, and impact, especially at low temperatures. Additionally, the films of the current invention demonstrate good formability, which is advantageous in demanding packaging applications, such as during deep-draw thermoforming. In relation to traditional films, Applicants' invention reduces the incidence of film failure, especially at the corners, from the combination of product bulk, weight, cooling to 0° C, impact, and abrasion.

Because Applicants' invention can be assembled from purchased polymers, many of which are trademarked as noted in the rejection, it is not surprising that the components of Applicants' invention can be assembled from the myriad disclosed in the prior art. However, absent a teaching to pick Applicants' specific film components from the myriad, the rejection is nothing more than a hindsight reconstruction using Applicants' invention as a guide. Such a pieces and parts reconstruction, lacking any direction toward Applicants' inventive combination, cannot form the basis of a sustainable § 103 rejection. Applicants respectfully request withdrawal of the rejection.

In In re Petering and Fall, 133 U.S.P.Q. 275, 281 (C.C.P.A. 1962) the court held that combining the pieces and parts of a reference, even the same reference, as the basis of an obvious rejection is improper when the reference discloses the pieces, but

fails to teach one of skill in the art how to assemble them into the Applicants' invention. Since an example cannot be found in any of the references which would lead one to combine the component polymers in accordance with Applicants' invention, the rejection should be withdrawn under *Petering*.

Regardless of the impropriety of combining prior art pieces and parts to form the basis of an obvious rejection, at least two other requirements remain for a sustainable § 103 rejection. First, the cited references must be in the same field as Applicants' invention, and second, the cited references must suggest or motivate one to combine the references in a manner which would make the current invention obvious. Here, Applicants' endeavor was to solve leakage problems in a heat-sealable vacuum skin packaging or thermoforming film, such as would be useful in a deep-draw packaging apparatus.

Unlike *Vicik* (Col. 12, Line 45), *Wilhoit* (Col. 1, Line 7), *Lambert* (Col. 2, Line 58), or *Georgelos* (Col. 1, Line 16), Applicants' were not concerned with creating a heat-shrinkable film. Heat-shrinkable films are defined by *Wilhoit* as films that return to their original unstretched dimension when heated to the softening point (Col. 1, Lines 16-19). Heat-shrinkable films are formed by heating a resin above its melting point and extruding it through a die. The resultant tubular or sheet is reheated and stretched longitudinally and/or laterally. After cooling, the film may be placed around the item to be packaged and heat-shrunk to tightly enclose the item. Heat-shrinkable films are often used as sausage casings (*Vicik*, Col. 10, Line 64) and for other light-duty packaging, not to package bulky and heavy foodstuffs which will be subjected to high stress and abrasion.

Conversely, Applicants' thermoformable film is useful in forming processes, such as vacuum skin packaging or thermoforming, where a package is formed and sealed. In thermoforming, the film is given a three dimensional shape by drawing it into a mold. In vacuum skin packaging, a vacuum is used to draw the film around the item to be packaged prior to sealing. Unlike a heat-shrinkable film, the current invention is not stretched prior to use and then heat shrunk around an item. Because thermoformable films do not significantly shrink when heated, a vacuum is used to draw them around the item to be packaged.

Such heat-shrinkable films are neither in the same field of endeavor nor reasonably pertinent to Applicants' thermoforming films, which can be used in a deep-draw apparatus. Because the obviousness rejection is based on non-analogous art, Applicants respectfully request withdrawal.

Even if these references were in the same field, the proposed combination is improper. As previously stated, the cited combinations fail to provide any suggestion or motivation to make Applicants' invention obvious. Neither the rejection nor the references suggest that a thermoforming film with enhanced puncture and abrasion resistance can be formed by Applicants' combination. Likewise, the references contain no incentive to attempt such a combination. While Applicants' component polymers may be found in the references, there is no suggestion or motivation to combine them in accordance with Applicants' invention to produce a multi-layered film with the current beneficial characteristics. Absent such a suggestion or motivation, the § 103 rejection should be withdrawn.

Even if the references were properly combined, the combination would not have made Applicants' invention obvious. *Webb* and *Friedrich*, are the only references focusing on thermoformable films. However, *Webb* and *Friedrich* teach films at least lacking VLDPE or the nylon mixtures of Applicants' invention. Although these, and other, polymer components may be found in the other four references, none of the references suggest the desirability of or how to successfully combine these pieces into Applicants' thermoformable multi-layer film having enhanced ambient and low temperature puncture resistance. Additionally, *Friedrich* teaches away from Applicants' film because Friedrich's purpose was to provide an easy-open package (Col. 1, Line 24) with a "tear-out" mechanism (Col. 11, Line 50), goals which could not be more opposite to Applicants'.

In view of these and other differences, it cannot be said that the cited references would have made the film defined by claims 1-35 obvious. As such, the § 103 rejection should be withdrawn.

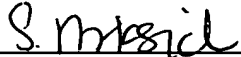
### **Conclusion**

In conclusion, Applicants have overcome each of the rejections. The application is therefore in condition for allowance and early notification of allowance is respectfully requested. If, for any reason, the Examiner believes that the amendments and remarks do not put the claims in condition for allowance, the undersigned attorney can be reached at (312) 321-4283 to resolve any remaining issues.

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A marked-up version of the changes made to the claims by current amendment is attached (Appendix A).

Respectfully submitted,

  
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**Appendix A**

5. (Amended) The multi-layer thermoformable film of Claim 1, wherein said compatibilizer is an ethylene  $\alpha$ -olefin copolymer having a density less than 0.900 with a [MP] melting point range of 55-75°C.
17. (Amended) The multi-layer thermoformable film of Claim 14, wherein nylon 6,66 is an 85/15 copolymer with the 85 being the nylon 6 component and having a Differential Scanning Calorimeter [MP] melting point of 195-200° C.
18. (Amended) The multi-layer thermoformable film of Claim 14, wherein the amorphous nylon is a nylon having no measurable [MP] melting point as measured by Differential Scanning Calorimeter using ASTM 3417-83.
33. (Amended) The multi-layer thermoformable film of Claim 1, wherein the at least one adhesive [has] occupies a thickness of about 5  $\mu$ m to 25  $\mu$ m.
34. (Amended) The multi-layer thermoformable film of Claim 1, wherein the at least one adhesive [has] occupies a thickness of about 10  $\mu$ m to 20  $\mu$ m.
35. (Amended) The multi-layer thermoformable film of Claim 1, wherein the at least one adhesive [has] occupies a thickness of about 15  $\mu$ m.
- 36. (New) A multi-layer thermoformable plastic film comprising:  
an outer layer comprising a blend of a very low density polyolefin, ethylene vinyl acetate, and a compatibilizer;  
an intermediate layer comprising a mixture of nylon copolymer and an amorphous nylon;  
an inner layer comprising a polyolefin or ionomeric polymer; and

at least one adhesive that bonds said outer, intermediate, and inner layers together,

wherein the outer layer comprises a blend of:

about 30% to 50% by weight very low density polyolefin, based on the total weight of the outer layer;

about 30% to 45% by weight ethylene vinyl acetate, based on the total weight of the top layer; and

about 10% to 24% by weight of a compatibilizer, based on the total weight of the outer layer.--

--37. (New) A multi-layer thermoformable plastic film comprising:

an outer layer comprising a blend of a very low density polyolefin, ethylene vinyl acetate, and a compatibilizer;

an intermediate layer comprising a mixture of nylon copolymer and an amorphous nylon;

an inner layer comprising a polyolefin or ionomeric polymer; and

at least one adhesive that bonds said outer, intermediate, and inner layers together,

wherein said compatibilizer is an ethylene  $\alpha$ -olefin copolymer having a density less than 0.900 with a MP range of 55-75°C.--

- 38. (New) A multi-layer thermoformable plastic film comprising:
- an outer layer comprising a blend of a very low density polyolefin, ethylene vinyl acetate, and a compatibilizer;
  - an intermediate layer comprising a mixture of nylon copolymer and an amorphous nylon;
  - an inner layer comprising a polyolefin or ionomeric polymer; and
  - at least one adhesive that bonds said outer, intermediate, and inner layers together,
- wherein the intermediate layer comprises:
- about 75% to 92% by weight on nylon 6,66 based on the total weight of the intermediate layer; and
  - about 8% to 25% by weight of amorphous nylon, based on the total weight of the intermediate layer.--